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CHB/OUKI, TAREK				
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2165				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/777,418

Applicant(s)

ARMITANO ET AL.

Examiner

TAREK CHBOUKI

Art Unit

2165

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-83 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/11/2009 has been entered.

Response to Amendment

This Office action has been issued in response to amendment filed on 08/11/2009. Claims 1-49 are cancelled and newly added. Claims 50-83 are pending. Applicants' arguments have been carefully and respectfully considered and a new ground of rejection is made.

Response to arguments

Applicant's arguments are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 50-55, 58-59, 63-66, 69-70, 73-80 and 82-83 are rejected under 35 U.S.C. 102(a) as being anticipated Bainbridge, Andrew John et al (hereinafter Bainbridge) US Patent No. 6014700.

As per claim 50, Bainbridge discloses:

A method comprising:

receiving at a storage server, from a storage client, a client request to perform an operation relating to a data set stored by the storage server;

(Column 3, lines 36-39)

in response to receiving the client request, determining in the storage server whether to invoke a policy engine in relation to the client request, by determining whether the client request satisfies a specified criterion associated with a specified policy of the policy engine;

(column 3, lines 61-67, wherein the criterion is workload balancing).

if the client request is determined not to satisfy a specified criterion associated with a specified policy of the policy engine, then satisfying the client request by the storage server without invoking the policy engine;

(Column 4, lines 63-67, wherein the workload balancing is done at the client and request is sent to a target server bypassing the policy invocation at the central server).

if the client request is determined to satisfy a specified criterion associated with a specified policy of the policy engine,

(Column 5, lines 41-49)

then sending a screen request corresponding to the client request from the storage server to the policy engine to cause the policy engine to apply the specified policy in relation to the client request or the data set;

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

receiving at the storage server, from the policy engine, a screen response indicating a result of the policy engine having applied the specified policy in relation to the client request or the data set;

(column 6, lines 1-3 and lines 40-54).

and sending a response to the client request from the storage server to the storage client in accordance with the screen response.

(column 6, lines 1-3 and lines 40-54, wherein the target server honors the client request).

As per claim 51. Bainbridge discloses:

A method as recited in claim 50, wherein the policy engine is implemented as a dedicated application server separate from the storage server.

(FIG. 2 and column 6, lines 1-3 and lines 40-54).

As per claim 52. Bainbridge discloses:

**A method as recited in claim 50, further comprising:
sending information relating to the data set to the policy engine with the screen request.**

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

As per claim 53. Bainbridge discloses:

A method as recited in claim 52, wherein the information relating to the data set comprises metadata of the data set.

(Column 6, lines 4-21, wherein the metadata is the server group identifier and policy group identifier).

As per claim 54. Bainbridge discloses:

A method as recited in claim 50, wherein the screen request comprises a remote procedure call (RPC).

(Column 5, lines 65-67).

As per claim 55. Bainbridge discloses:

A method as recited in claim 50, wherein the storage server and at least a portion of the policy engine are implemented in a single physical platform.

(Column 2, lines 65-67)

As per claim 58. Bainbridge discloses:

A method as recited in claim 50, wherein the policy engine determines whether to approve or deny the screen request based on an identity of a user of the storage client.

(Column 7, lines 27-32, wherein the ranking of available server (policy) is done based on the user)

As per claim 59. Bainbridge discloses:

A method as recited in claim 50, wherein the policy engine determines whether to approve or deny the screen request based on an identity of the storage server.

(Column 7, lines 1-10, wherein the approved/pre-allocated servers are specifics according the workload policy).

As per claim 63. Bainbridge discloses:

A system comprising:

a storage server;

(FIG. 2)

And a policy engine, implemented as a dedicated application server separate from the storage server, coupled to communicate with the storage server;

(FIG. 2 and column 6, lines 1-3 and lines 40-54).

wherein the storage server is configured to receive a client request, from a storage client, to perform an operation relating to a data set stored by the storage server;

(Column 3, lines 36-39)

determine whether to invoke a policy engine, in response to receiving the client request, by determining whether the client request satisfies a specified criterion associated with a specified policy of the policy engine;

(column 3, lines 61-67, wherein the criterion is workload balancing).

satisfy the client request, without invoking the policy engine, if the client request is determined not to satisfy a specified criterion associated with a specified policy of the policy engine;

(Column 4, lines 63-67, wherein the workload balancing is done at the client and request is sent to a target server bypassing the policy invocation at the central server).

invoke the policy engine, if the client request is determined to satisfy a specified criterion associated with a specified policy of the policy engine,

(Column 5, lines 41-49)

by sending a screen request, corresponding to the client request, to the policy engine;

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

wherein the policy engine is configured to receive the screen request from the storage server;

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

wherein the screen request is configured to cause the policy engine to apply the specified policy in relation to the client request or the data set;

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

and send a screen response indicating a result of the policy engine having applied the specified policy in relation to the client request or the data set;

(column 6, lines 1-3 and lines 40-54).

receive the screen response from the policy engine;

(column 6, lines 1-3 and lines 40-54).

and send a response to the storage client in accordance with the screen response.

(column 6, lines 1-3 and lines 40-54, wherein the target server honors the client request).

As per claim 64. Bainbridge discloses:

A system as recited in claim 63, wherein the storage server is further configured to:

send information relating to the data set to the policy engine with the screen request.

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

As per claim 65. Bainbridge discloses:

**A system as recited in claim 64, wherein the information relating to the data set comprises
metadata of the data set.**

(Column 6, lines 4-21, wherein the metadata is the server group identifier and policy group identifier).

As per claim 66. Bainbridge discloses:

**A system as recited in claim 63, wherein the screen request comprises a remote procedure call
(RPC).**

(Column 5, lines 65-67).

As per claim 69. Bainbridge discloses:

**A system as recited in claim 63, wherein the policy engine is further configured to determine
whether to approve or deny the screen request based on an identity of a user of the storage client.**

(Column 7, lines 27-32, wherein the ranking of available server (policy) is done based on the user)

As per claim 70, Bainbridge discloses:

A system as recited in claim 63, wherein the policy engine is further configured to determine whether to approve or deny the screen request based on an identity of the storage server.

(Column 7, lines 1-10, wherein the approved/pre-allocated servers are specifies according the workload policy).

As per claim 73, Bainbridge discloses:

A system comprising:

a plurality of storage servers;

(FIG. 2)

and a plurality of policy engines, each coupled to communicate with each of the storage servers;

(FIG. 2 and column 6, lines 1-3 and lines 40-54).

wherein each of the storage servers is configured so that, in response to receiving a client request to perform an operation relating to a stored data set,

(Column 3, lines 36-39)

the storage server responds by determining whether at least one of the policy engines should be invoked in relation to the client request, by determining whether the client request satisfies a specified criterion associated with a specified policy of at least one of the policy engines;

(column 3, lines 61-67, wherein the criterion is workload balancing).

if the client request is determined not to satisfy a specified criterion associated with a specified policy of at least one of the policy engines, the storage server responds by satisfying the client request;

(Column 4, lines 63-67, wherein the workload balancing is done at the client and request is sent to a target server bypassing the policy invocation at the central server).

whereas if the client request is determined to satisfy a specified criterion associated with a specified policy of at least one of the policy engines,

(Column 5, lines 41-49)

the storage server responds by sending a screen request corresponding to the client request from the storage server to at least one of the policy engines to cause at least one of the policy engines to apply a specified policy in relation to the client request or the data set;

(Column 5, lines 65-67, column 6, lines 1-3 and lines 40-44).

receiving at the storage server a screen response indicating a result of applying the specified policy;

(column 6, lines 1-3 and lines 40-54).

and sending a response to the client request from the storage server to the storage client in accordance with the screen response.

(column 6, lines 1-3 and lines 40-54, wherein the target server honors the client request).

As per claim 74. Bainbridge discloses:

A system as recited in claim 73, wherein the storage server is configured to select a particular one or more of the policy engines which should be invoked in response to determining that at least one of the policy engines should be invoked.

(column 3, lines 61-67, wherein the criterion is workload balancing).

As per claim 75. Bainbridge discloses:

A system as recited in claim 74, wherein the storage server stores a plurality of specified criteria associated with a corresponding plurality of specified policies, and wherein the storage server is

configured to select at least one of the policy engines which should be invoked, based on which one or more of the specified criteria are satisfied by the client request.

(column 3, lines 61-67, wherein the criterion is workload balancing).

As per claim 76. Bainbridge discloses:

A system as recited in claim 74, wherein the storage server is configured to select at least one of the policy engines which should be invoked based on a round- robin selection scheme.

(Column 3, lines 1-11).

As per claim 77. Bainbridge discloses:

A system as recited in claim 74, wherein the storage server is configured to select at least one of the policy engines which should be invoked based on a load- balancing scheme.

(Column 3, lines 1-11).

As per claim 78. Bainbridge discloses:

A system as recited in claim 73, wherein each of the policy engines is dedicated to applying a different set of one or more policies.

(Column 7, lines 1-10).

As per claim 79. Bainbridge discloses:

A system as recited in claim 73, wherein at least one of the policy engines is configured to apply a specified policy in a manner that is dependent on which storage server received the client request.

(Column 7, lines 1-10).

As per claim 80. Bainbridge discloses:

A system as recited in claim 73, wherein at least one of the policy engines is configured to determine whether to apply a particular specified policy based on which storage server received the client request.

(Column 7, lines 1-10).

As per claim 82. Bainbridge discloses:

A system as recited in claim 73, wherein the plurality of policy engines are implemented as a cluster.

(Column 3, lines 45-51, wherein the server groups is the cluster).

As per claim 83. Bainbridge discloses:

A system as recited in claim 73, wherein at least one of the policy engines comprises a cluster.

(Column 3, lines 45-51, wherein the server groups is the cluster).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 56 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Bainbridge, Andrew John et al (hereinafter Bainbridge) US Patent No. 6014700 in view of Tzelnic, Percy et al (hereinafter Tzelnic) US Patent No. 6061504.

As per claim 56, Bainbridge reference discloses servers handling client request, but does not explicitly disclose file management, However in an analogous art of data management, Tzelnic teaches:

A method as recited in claim 50, wherein the client request is a request for a file managed by the storage server.

(FIG. 6 and column 2, lines 45-48).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Tzelnic by incorporating the teaching of Tzelnic into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use storage policy of Tzelnic into the system of Bainbridge for the purpose of using policies to control file system management.

As per claim 67, Bainbridge reference discloses servers handling client request, but does not explicitly disclose file management, However in an analogous art of data management, Tzelnic teaches:

A system as recited in claim 63, wherein the client request is a request for a file managed by the storage server.

(FIG. 6 and column 2, lines 45-48).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Tzelnic by incorporating the teaching of Tzelnic into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use storage policy of Tzelnic into the system of Bainbridge for the purpose of using policies to control file system management..

3. Claims 60-61, 71-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Bainbridge, Andrew John et al (hereinafter Bainbridge) US Patent No. 6014700 in view of Theimer, Marvin M. et al (hereinafter Theimer) US Patent No 5649099.

As per claim 60, Bainbridge reference discloses servers handling client request, but does not explicitly disclose using quota to approve or deny request, However in an analogous art of data management, Theimer teaches:

A method as recited in claim 50, wherein the policy engine determines whether to approve or deny the screen request based on a quota.

(Column 2, lines 58-60, access controls: Concepts such as restrictions over file types, access time limits, the homework example restrictions, or resource quotas, touch base upon the restriction of the request based on resource quotas).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Theimer by incorporating the teaching of Theimer into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the quota criteria of Theimer into the system of Bainbridge for the purpose of limit the resource access control based on quota.

As per claim 61, Bainbridge reference discloses servers handling client request, but does not explicitly disclose using usage frequency to approve or deny request, However in an analogous art of data management, Theimer teaches:

A method as recited in claim 50, wherein the policy engine determines whether to approve or deny the screen request based on a number of times the data set has been accessed during a period of time.

(Column 2, lines 58-60, access controls: Concepts such as restrictions over file types, access time limits, the homework example restrictions, or resource quotas, touch base upon the restriction of the request based on access time).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Theimer by incorporating the teaching of Theimer into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the quota criteria of Theimer into the system of Bainbridge for the purpose of limit the resource access control based on usage frequency.

As per claim 71, Bainbridge reference discloses servers handling client request, but does not explicitly disclose using quota to approve or deny request, However in an analogous art of data management, Theimer teaches:

A system as recited in claim 63, wherein the policy engine is further configured to determine whether to approve or deny the screen request based on a quota.

(Column 2, lines 58-60, access controls: Concepts such as restrictions over file types, access time limits, the homework example restrictions, or resource quotas, touch base upon the restriction of the request based on resource quotas).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Theimer by incorporating the teaching of Theimer into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the quota criteria of Theimer into the system of Bainbridge for the purpose of limit the resource access control based on quota.

As per claim 72, Bainbridge reference discloses servers handling client request, but does not explicitly disclose using usage frequency to approve or deny request, However in an analogous art of data management, Theimer teaches:

A system as recited in claim 63, wherein the policy engine is further configured to determine whether to approve or deny the screen request based on a number of times the data set has been accessed during a period of time.

(Column 2, lines 58-60, access controls: Concepts such as restrictions over file types, access time limits, the homework example restrictions, or resource quotas, touch base upon the restriction of the request based on access time).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Theimer by incorporating the teaching of Theimer into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the quota criteria of Theimer into the system of Bainbridge for the purpose of limit the resource access control based on usage frequency.

4. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Bainbridge, Andrew John et al (hereinafter Bainbridge) US Patent No. 6014700 in view of Luk, Shun Hang et al (hereinafter Luk) US Publication No 20060195616.

As per claim 62, Bainbridge does not explicitly disclose the file-level and block-level protocol, However in an analogous art of data storage, Luk teaches:

method as recited in claim 50, further comprising:

using one of a plurality of storage protocols implemented by the storage server to access the set of data, the plurality of storage protocols including a block-level storage protocol (Column 7, lines 18-20) and a file-level storage protocol (Column 4, lines 60-63)..

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Luk by incorporating the teaching of Luk into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use storage protocols of Luk into the system of Bainbridge for the purpose of enabling a wide range of storage protocols.

5. Claims 57, 68 and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Bainbridge, Andrew John et al (hereinafter Bainbridge) US Patent No. 6014700 in view of Corbin, John R (hereinafter Corbin) US Patent No. 5138712.

As per claim 57, Bainbridge does not explicitly disclose granting/denying request based on the client identity, However in an analogous art of data storage, Corbin teaches:

A method as recited in claim 50, wherein the policy engine determines whether to approve or deny the screen request based on an identity of the storage client.

(Column 2, lines 60-68).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Corbin by incorporating the teaching of Corbin into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the Access control of Corbin into the system of Bainbridge for the purpose of managing/handling request according to Access control policy.

As per claim 68, Bainbridge does not explicitly disclose granting/denying request based on the client identity, However in an analogous art of data storage, Corbin teaches

A system as recited in claim 63, wherein the policy engine is further configured to determine whether to approve or deny the screen request based on an identity of the storage client.

(Column 2, lines 60-68).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Corbin by incorporating the teaching of Corbin into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the Access control of Corbin into the system of Bainbridge for the purpose of managing/handling request according to Access control policy.

As per claim 81, Bainbridge does not explicitly disclose granting/denying request based on the client identity, However in an analogous art of data storage, Corbin teaches

A system as recited in claim 73, wherein at least one of the policy engines applies a specified policy based on an identity of a client which sent the client request.

(Column 2, lines 60-68).

Therefore, it would have been obvious to a person in the ordinary skill in the art at the time of the invention to combine Bainbridge and Corbin by incorporating the teaching of Corbin into the method of Bainbridge. One having ordinary skill in the art would have found it motivated to use the Access control of Corbin into the system of Bainbridge for the purpose of managing/handling request according to Access control policy.

Conclusion

For the prior art made of record and not relied upon is considered pertinent to applicant's disclosure, please refer to the Notice of Reference form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarek Chbouki whose telephone number is 571-2703154. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Neveen Abel-Jalil can be reached at 571-2724074. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. C./

Examiner, Art Unit 2165

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/Neveen Abel-Jalil/

Supervisory Patent Examiner, Art Unit 2165